Page 4, ¶¶ 2, 3, lines 7-20:

Figure 2 is a diagram illustrating the semiconductor device 200 after a conventional halo implant. Accordingly oftentimes the halo implant 202 ends up providing dopant to all of the source region 204 and drain region 206. Since only the area directly underneath the gate 208 is the area of interest for the implant (indicated by shading), there is leakage and other problems associated therewith. Accordingly, the entire active area 212 is open primarily because the thickness of the photoresist mask 213 is such that at a 45° angle, the ultraviolet rays cannot accurately be provided underneath the gate area.

A2

As is seen, with a photoresist mask 213 thickness of 0.5μm, the 45° angle will require that a large portion of the ultraviolet radiation will not reach the area of interest (indicated by shading) because at that angle, with the thick photoresist, it is not possible. In addition, if a thick photoresist of (0.5μm or greater) is placed over the trench oxidation 207, due to the soft jelly type nature of the photoresist, oftentimes the photoresist will fall over in the trench oxidation area and cover areas that are to be implanted. Even if the photoresist stands erect, at the smaller process technologies, the halo implant will not reach the targeted areas.

IN THE CLAIMS:

Sub B

8. (Amended) A system for providing a halo implant to a semiconductor device comprising:

A3

means for providing a thin photoresist layer to the semiconductor device, wherein the thin photoresist layer is between approximately 0.1 to 0.2μm thick; and

means for providing the halo implant to the semiconductor device, wherein the thin photoresist layer is used as a mask.